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## ABSTRACT

A study conducted in a magnet school examined whether curricular attractions stressing science, second language acquisition, and use of computers make a difference in how effectively children listen and how well the pupil comprehends what is heard. Subjects were 58 fourth grade students who participated in an enriched curriculum. Data were collected for each student on his or her 1986-87 and 1987-88 Stanford Achievement Test. A comparison of the subjects' grade two listening total and listening comprehension 1st percentiles (derived the year before they attended the magnet school) was made with their grade three percentiles in the same tests (received after the first year at the magnet school). Results indicated a significant downward trend in listening total percentile between second and third grade. Further quantitative analysis is required to establish causes for the grade slump. (A table of data is appended.) (NKA)

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Running head: MAGNET SCHOOLS

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**Analysis of Listening Skills Acquisition  
in Magnet Schools**

**by Wanda A. Boyer and Dr. Frances Anderson**

**Running Head: Magnet Schools**

## Intro

Magnet School, a "figurative term given currency in connection with desegregation; refers to a public school funded to have extremely attractive programs that will draw an essentially integrated enrollment from a specially enlarged or districtwide attendance zone." (Hawes & Hawes, 1982).

American educators have been attracted to the concept of magnet schools since the emergence of the first public schools in Massachusetts. Glenn (1987) attributes this attraction to the guiding words of Horace Mann, who envisioned that one day "children of all classes and representing all levels of society would thus acquire the mutual respect essential to the functioning of a democracy." (p. 290) Mann's ideal should be used as a standard by which to judge and improve present systems; a catalyst of sorts for research into just how effective our school systems are.

## Literature Review

A topical theme rippling throughout North America is the concept of choice in education. Tifft (1989) identifies two major educational options for parents: magnet schools and open enrollment. Although these plans have Presidential backing, research to date has been qualitative and anecdotal in nature (Nathan, 1987; Doyle & Levine, 1984). Research has looked at the effects of magnet schools to "reduce dropouts, increase student appreciation for learning, improve parental involvement and satisfaction, encourage racial and economic integration, provide extra challenge for students dissatisfied

with the conventional programming and raise the morale of educators" (p. 747). Metz (1984) traced "the life course of magnet schools via an ethnographic study of three magnet middle schools and the wider district of which they were a part" (p. 20). Blank (1984) described a two year U.S. Department of Education survey of the comparative impacts of differing magnet school programs. This study derived results from interviews, collected data regarding enrollments, staff characteristics, student outcomes and classroom observation. According to Metz and Blank, magnet schools can improve the quality of education in urban school districts. However, Gaines (1987) adds a note of caution regarding much of the research indicating "that few reports assess the impact of magnet curricula on student achievement." Furthermore, she states that the evaluation of achievement in magnet school programs cannot be interpreted when there are no comparisons of magnet students with nonmagnet students or with scores district-wide.

#### Statement of the Problem

Our analysis of the effects of one magnet school's curriculum on student achievement addressed the following question: Do curricular attractions stressing science, second language acquisition, and use of computers make a difference in how effectively children listen (i.e. how well the pupil attends to what is heard) and how well the pupil comprehends what is heard? (Madden, Gardner, Rudman, Karlsen and Merwin,

1973). We question whether modifying the learning environment via admittance into a magnet school would, in fact, improve listening skills.

### Methodology

With this in mind, we present our research methodology. We used a correlated  $t$  test on 58 subjects from a newly formed magnet school in a mid-sized southern city. For each child, data were collected on his/her 1986-87 and 1987-88 Stanford Achievement Test (Total Listening and Listening Comprehension percentiles). We compared their grade two Listening Total and Listening Comprehension Test percentiles derived the year before they attended this magnet school with their equivalent grade three percentiles received after the first year at the magnet school. Listening test results were used because, as Rankin's often quoted doctoral study indicated in 1926, people generally spend 42% of their communicating time listening (as cited in Deighton, Ed., 1971).

### Subjects

Fifty-eight fourth grade students out of a total of 71 were sampled in this study. The 13 students not included in this study did not have records of their grade two SAT Listening percentiles. All the pupils in this study transferred from other public schools in the vicinity to the magnet school for grade three in the 87-88 school year.

Admission requirements to this particular magnet school were based upon a pre-designated matrix scale which considered the following: (1) reading and math Stanford Achievement Test scores, (2) teacher recommendation for admittance into the program, (3) parent recommendation for admittance into the program, (4) grade point average on school-based report cards, (5) school attendance and conduct. There were 29 black and 29 white students. The socio-economic breakdown of the subjects, as gauged by their lunch payment plan, showed a middle class dominance: 65% paid in full, 32% were on the free lunch program, while the remaining 3% paid reduced prices.

Each magnet school student received the same instruction in the basic courses as the other students throughout the school district. In addition to the regular curriculum, each student received six 40 minute weekly labs: two in enriched science, two in computer education and two in Spanish language acquisition.

## Results

### Findings

A two-tailed correlated  $t$  test was used at the .05 level to see if there was any significant change in the pupils' position on the national normal curve for their grade level. Table 1 contains the relevant data. When we compared the Listening Total Percentile means for grades two and three (LTP2 mean = 73.6379; LTP3 mean = 67.0345), the  $t$  value was 3.01. Furthermore, when the Listening Comprehension

Percentile means for grades two and three (LCP2 mean = 71.1552; LCP3 mean = 67.3966), the  $t$  value was 1.4. The critical  $t$  value ( $p < .05$ ) with 57 degrees of freedom is 2.000.

The test indicated a significant downward trend in Listening Total Percentile between second and third grade (the LTP  $t$  value was greater than 2.000). However, the Listening Comprehension Percentile decline was not statistically significant (the LCP  $t$  value was less than 2.000). The LCP score is a subset of the LTP score; the LTP also includes vocabulary testing. With this in mind, consideration should be given to the listening vocabulary skills.



Table 1  
Grade 2 and 3 SAT Correlation

Group	Mean	<u>SD</u>	Mean <u>SD</u>	<u>t</u> value
LTP2	73.6378	22.978	16.728	3.01
LTP3	67.0345	24.434		
LCP2	71.1552	21.356	19.830	1.44
LCP3	67.5966	25.547		

\* t crit at  $p < .05$  is 2.000

### Conclusion

The fact that our study showed a significant downward trend in the Listening Total Percentile should generate curiosity and concern about magnet school effectiveness, but, because this is a correlational study, no statement of causality can be made. Therefore, further quantitative analysis is required to establish causes for the grade slump relative to the established norms on the Stanford Achievement Test.

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